

Appln. No. 09/480,643  
Amdt. dated Oct. 17, 2005  
Reply to Office Action dated July 15, 2005

### Remarks/Arguments

These remarks are in response to the Office Action dated July 15, 2005 (Office Action). As this reply is timely filed, no fee is believed due. Before addressing the Office Action in detail, however, the Applicants would like to thank Examiner Laneau for participating in the teleconference conducted on October 5, 2005, with the undersigned. During the teleconference, differences between the cited references and the present invention were discussed.

Turning to the Office Action, claims 1, 3-6, 9, 10, and 14-21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,317,718 to Fano (Fano) in view of U.S. Patent No. 6,647,373 to Carlton-Foss (Carlton-Foss). In response, claims 1, 9, 14, 15, 16, and 19 have been amended to further clarify aspects of the present invention which differ from the cited art. More particularly, the amendments clarify the following aspects of the Applicants' invention:

- the present invention utilizes short range wireless, ad-hoc, communication links and systems;
- communications between merchant systems and the user device are exchanged directly between one another rather than through a centralized e-commerce system or other intermediary; and
- the present invention utilizes proximity as a means of determining which merchants are local to the user's wireless communication device rather than other techniques that determine actual locations of the consumer device and/or the merchant.

Support for these amendments can be found at page 20, lines 10-19 and at page 10, lines 10-20 of the Applicants' disclosure. Accordingly, no new matter has been introduced.

Prior to addressing the rejections on the art, a brief review of the Applicants' invention is appropriate. The Applicants' invention relates to a method and system for facilitating commercial transactions through the use of a mobile wireless device. In accordance with the present invention, a mobile wireless device associated with a user can store preferences and desired transactions for the user. As the user walks through a commercial environment, such as a shopping mall, or the like, the user's mobile wireless device can communicate with individual merchant systems in order to facilitate a commercial transaction. In one embodiment of the

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present invention, the mobile wireless device communicates directly with merchant systems over short range, ad-hoc, wireless communication links. In such an embodiment, no centralized transmitter and/or e-commerce system is required as communications are carried out on an ad-hoc, peer-to-peer basis within a limited geographic area.

In one embodiment, the limited geographic area is not determined by location detection technology, such as Global Positioning System (GPS), in combination with a filtering technique. Rather, the limited geographic area is determined via proximity. That is, the user's mobile wireless device and the merchant communication systems detect one another over short range, ad-hoc, wireless communication networks, i.e. 802.11 type wireless networks. The limited geographic area is determined by the physical coverage of the various communication networks in place on merchant premises. More particularly, as the user's device comes into range of a merchant communication system, an ad-hoc communication link is established. This greatly simplifies operation of the present invention as mechanisms such as GPS and complex e-commerce systems for centralized profile management and location-based filtering are not needed. Each merchant need only have a wireless access point and computer system on premises.

Turning to the rejections on the art, claims 1, 3-6, 9, 10 and 14-21 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Fano in view of Carlton-Foss. Fano has been cited for teaching all aspects of the Applicants' claimed invention with the exception of the features of "transmitting information on said first bid to a second merchant" and using a cellular telephone as the wireless device. Carlton-Foss has been cited for a competitive bidding process. In consequence, the Office Action states that it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the system of Fano with a competitive bidding process as shown in Carlton-Foss. The Office Action further notes that different types of wireless communication systems, i.e. Bluetooth, Wi-Fi, or cellular, are functional equivalents. Accordingly, it is asserted that it would have been obvious for one having ordinary skill in the art to select any desirable wireless system to be employed by Carlton-Foss.

The Applicants respectfully disagree. Neither Fano, Carlton-Foss, nor any combination thereof, teaches or suggests the present invention as claimed. Further, the selection of a particular wireless communication system has a significant impact upon the way in which the

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invention and the cited art function, making particular features of the Applicants' invention impractical or impossible for Fano or Carlton-Foss to perform. Below is a discussion of some of the differences between the cited art and the present invention.

First, Fano relies upon a centralized e-commerce framework and requires both the customer (user) and the merchant to access this framework. This aspect of Fano is discussed beginning at column 32, line 60, where Fano describes how user profiles are stored in a central storage area. At column 47, lines 23-26, Fano goes on to state that "[o]ne advantage of the system is that it enables the retrieval of data for nearby stores without relying on the presence of any special equipment at the mall itself." Such is the case because Fano teaches a centralized e-commerce system that merchants access via the Internet. Similarly, users must manage their profiles by accessing this centralized e-commerce system via the Internet.

Fano further teaches an Intention Value Network at column 33, beginning at line 52, where an integrator system coordinates delivery of products and services with a network of approved suppliers. This passage demonstrates how transactions are passed through the centralized e-commerce system. It further demonstrates the complex nature of the Fano system in that it ties into product databases of merchants, requiring that such databases be continually updated.

In further support of the notion that Fano utilizes a centralized processing system, at column 33, lines 7-19, Fano states the following:

**FIG. 17 presents the detailed logic associated with the many different methods for accessing this centrally stored profile. The profile database 1710 is the central storage place for the users' profile information.** The profile gateway server 1720 receives all requests for profile information, whether from the user himself or merchants trying to provide a service to the user. The profile gateway server is responsible for ensuring that information is only given out when the profile owner specifically grants permission. Any device that can access the public Internet 1730 over TCP/IP (a standard network communications protocol) is able to request information from the profile database via intelligent HTTP requests. (emphasis added)

It is clear from the above passage that Fano utilizes a centralized management system.

By comparison, the Applicants' invention stores user profiles within the user's wireless device. It is the user's wireless device, not a centralized e-commerce system as in the case of Fano, that compares merchant offers for the customer. Further, each participating merchant

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operates its own short range wireless communication system on-premises. As such, specialized equipment, albeit inexpensive and easy to setup, is required. One byproduct of the Applicants' invention is that the threshold to participate in the system is lower than that of Fano. The Applicants' invention requires no supplier/retailer approval, nor does it require an integrator or ongoing commitment on the part of a merchant, i.e. a subscription and continued maintenance of an online profile and/or product database.

In illustration, in accordance with the present invention, a local restaurant can activate an on premise short range wireless communication system to contact customers at times when the restaurant is not busy. When traffic increases, the restaurant can simply deactivate the short range wireless system so that offers and/or bidding with potential customers is discontinued. In contrast, using the Fano system, the restaurant would need to log onto the centralized system, and alter various preferences to discontinue offers or change the way in which customers are solicited through the centralized e-commerce system.

Still, the Office Action cites FIG. 17 of Fano in support of the notion that Fano does teach communication directly between merchant systems and a user device. FIG. 17, however, is clearly contradictory to this assertion. FIG. 17 shows the public Internet (1730) as well as a centralized profile gateway/database, and a merchant server. The profile gateway/database serves as a central storehouse for user profile information. The merchant systems can access this data via the Internet. The user's device also accesses this centralized system. Notably, at no place within FIG. 17 does Fano teach or suggest that a merchant has its own short range wireless communication system located on premises that is capable of communicating directly with a user over a short range, ad-hoc, wireless communication link. Rather, FIG. 17 only reinforces the notion that Fano teaches that merchants access a centralized system which facilitates communication with users.

Second, the Applicants' invention relies upon proximity to determine which merchants may communicate with a customer. Proximity is defined by Webster's online dictionary as "the quality or state of being proximate; closeness". In other words, the present invention does not determine a location for either the merchant or the user. Instead, it is the physical range of the wireless ad-hoc networks run by each individual merchant that determines which users are contacted. It is the physical properties, i.e. range, of the short range, ad-hoc, wireless network,

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that determine the size of the limited geographic area within which the present invention operates.

In other words, the present invention relies upon the physical range of short range wireless networks to limit the geographic scope of merchants available for commercial transactions. The use of short range wireless communication links and/or networks relieves the present invention from having to actively locate users. That is, when the mobile wireless device is in range, it can join a network in an ad-hoc fashion. No affirmative steps need be taken to locate the mobile wireless device or to filter out responses from merchants that are not within the local area surrounding the mobile wireless device.

In contrast, Fano relies upon GPS technology and location-based filtering. The location based filtering is performed by the centralized e-commerce system to pair merchants with customers. Fano determines the actual location of the customer and/or the merchant. Because Fano covers a large, geographically diverse area, beyond the limited area of a short-range wireless network, Fano must restrict the pool of participant merchants through the use of GPS and location filtering.

On another note, Fano's reliance upon GPS technology makes it largely unsuitable for use indoors. GPS technology, in general, does not function well indoors because signals from the GPS satellites are attenuated significantly by buildings and other structures. The Applicants have attached several exhibits documenting this phenomenon. Notably, Fano actually states, in column 2, lines 45-46, that the mobile wireless device is equipped with a GPS receiver that supports location targeted shopping in an outdoor mall. The present invention overcomes this limitation as short-range, ad-hock, wireless communications function well indoors, particularly as each merchant would have its own communication system on-premises. In an indoor shopping mall setting, attenuation is not a factor as both the communication system and the user's mobile wireless device are indoors.

Turning to the second reference, Carlton-Foss fails to cure the deficiencies of Fano. First, Carlton-Foss does not teach or suggest a system where communications are sent directly between a mobile wireless device and merchants. Rather, Carlton-Foss, like Fano, uses a centralized host processing system. (Column 3, lines 43-46)

Second, rather than limiting the geographic area of the reverse auction, Carlton-Foss seeks to expand the area. At column 4, lines 8-13, Carlton-Foss states "[b]ecause this electronic

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system reaches a geographically diverse audience, requests become visible in areas where they are not ordinarily available for suppliers to notice them and respond to a request, resulting in increased supplier response without significant increase in purchasing costs." At multiple locations within the Carlton-Foss specification, the Internet is suggested as a medium of communication. Again, Carlton-Foss is concerned with expanding the geographic scope in which users and merchants can participate to enlarge the pool of potential bidders. This expansive approach teaches away from the present invention, which seeks to limit the geographic area from which merchants can participate.


Further, as the stated goal of Carlton-Foss is a geographically diverse audience, the use of short range wireless communication links as a means of communication between the bidders and seller would be impractical as such means generally would limit the geographic area in which messages can be sent or received. Accordingly, Carlton-Foss does not teach peer or pair-wise auctioning. Carlton-Foss also does not require that the user device be physically proximate to a merchant.

As neither Fano, Carlton-Foss, nor any combination thereof teaches or suggests the present invention as claimed, withdrawal of the 35 U.S.C. § 103(a) rejection with respect to claims 1, 3, 5-6, 9, 10, and 14-21 is respectfully requested. The Applicants believe all claims to be in condition for allowance, which action is respectfully requested. The Applicants invite the Examiner to call the undersigned if it is believed that a telephonic interview would expedite prosecution of the application to an allowance.

Respectfully submitted,

Date

10/17/05

  
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## Technology

### Rosum TV-GPS

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## Rosum TV-GPS

### The limitations of GPS and A-GPS

GPS signals were designed for accurate tracking and location in open outdoor areas; however, indoors and in urban areas, the technology is not reliable. Assisted GPS (A-GPS) helps the GPS receiver by providing an alternate source of the fragile navigation message and helping the receiver average for extended periods of time. However, even A-GPS is unreliable indoors due to the fundamental physics of GPS satellite signals.

### Rosum's TV Advantage

In contrast, television signals were designed for indoor reception. Rosum TV-GPS uses commercial broadcast TV signals to provide reliable positioning indoors and in urban environments. By combining TV signals with GPS signals, Rosum can provide seamless indoor/outdoor coverage across all environments.

METRIC	EFFECT	TV-GPS	A-GPS	GPS
Power	Stronger signals are more widely detectable. The greater the signal level, the faster the position fix.	Typically 1000 KW or more, broadcast within 50 miles of commercial and population centers.	500W, from 12,500 miles above the Earth's surface.	500W, from 12,500 miles above the Earth's surface.
Frequency	Lower frequencies penetrate buildings more easily.	300-750 MHz. Good indoor coverage.	1,512 MHz. Poor indoor coverage.	1,512 MHz. Very poor indoor coverage.
Bandwidth	Wider signal bandwidth means more accurate positions.	6 MHz	1 MHz	1 MHz
Frequency Diversity / Clear Channels	Ensures coverage in difficult environments. Clear channels speed signal acquisition by increasing Signal-to-Noise ratios.	Every building has slightly different signal attenuation across the broadcast TV spectrum. Since each TV tower typically broadcasts more than one channel, the Rosum receiver will have a better chance of acquiring a signal given that these channels are broadcast at different frequencies. Rosum can choose the best channels from each tower to compute the user's location.	All channels use the same frequency. One channel's signal is another channel's noise.	All channels use the same frequency. One channel's signal is another channel's noise.

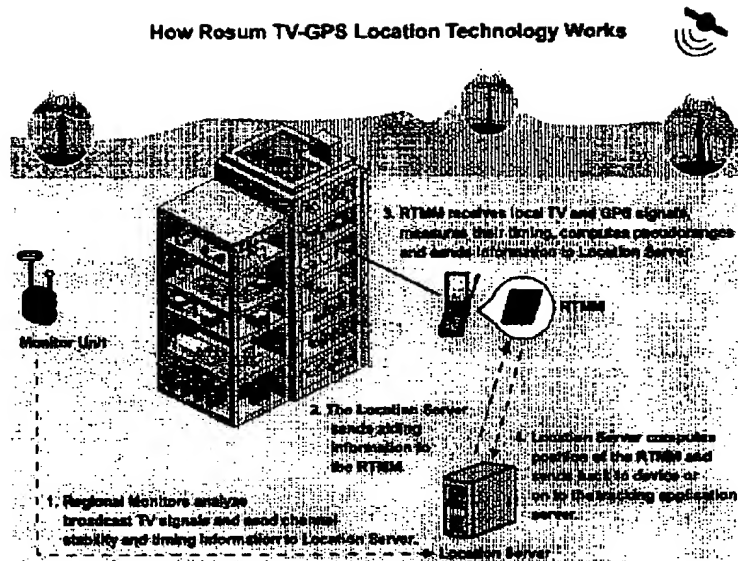
Rosum. For enterprises and government entities that suffer from the limits of GPS, we provide a seamless indoor/outdoor location technology that is rapid, available, and accurate.

[Read about Rosum TV-GPS components.](#)

### How Rosum TV-GPS Works

The illustration below depicts how Rosum TV-GPS works.

# How Rosum TV-GPS Location Technology Works



Note that location could be determined autonomously at the RTMM under the following situations:

- TV signals were all synchronized to a common clock
- Timing information for the TV clocks could be provided over-the-air as a part of the TV signal.

Please contact us for more information.



# Hybrid Wireless Assisted GPS Provides for E9-1-1 Public Safety

APCO/NENA E9-1-1 Symposium

*Irving, TX  
January 25, 2002*





# Conventional GPS Not Suitable for E9-1-1



- Requires minimally obstructed view of sky
  - Does not work indoors or in areas of high blockage
  - "Yield" on fixes decays rapidly with blockage experienced in everyday movement
    - Urban areas, trees, hills, etc.
- Relatively long acquisition time
  - From ? 30 seconds to 15 MINUTES from "Cold Start"
  - Totally unacceptable for Location-based Services and public safety type applications
- Significant power consumption in handset environment reduces battery life
  - Tracking causes continuous power drain
  - Adverse impact to handset standby times



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